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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,887	08/15/2006	Reinhard Heine	016906-0500	4686

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EXAMINER	
RUBY, TRAVIS C	
ART UNIT	PAPER NUMBER
3785	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/575,887	HEINE, REINHARD	
	Examiner	Art Unit	
	TRAVIS RUBY	3785	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 28-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 28-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 August 2010* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/24/2011*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/24/2011 has been entered.

Drawings

2. The drawings filed on August 24, 2010 and April 14, 2006 are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the abutment supporting the heat exchanger in a vehicle as recited in Claim 29 and 31 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. The examiner notes that the applicant has submitted new Figure 6 to illustrate an abutment. The examiner fails to see how two rectangles constitute an abutment on a vehicle frame that supports the fan frame and heat exchanger. Thus the newly submitted drawing is not acceptable as it fails to show the required limitations from the claims.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. **The objection to the drawings will not be held in abeyance.**

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 and 28-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ecia (FR2808870, as previously cited by applicant via IDS) in view of Valeo Thermique Moteur (FR2778975, as previously cited by applicant via IDS, herein referred to as Valeo).

Re Claim 1. Ecia discloses an arrangement used for securing a fan frame (2) to a heat exchanger (1), comprising:

a first heat exchanger (1) comprising a tube/rib block (Figure 1),

a first header (6) and a second header (5), and

a fan frame (2) comprising a framework with a first set of projections (27), a second set of projections (31), and at least one rib (Figure 5 illustrates that the fan frame has a rib at the top edge),

wherein the first header has holders (14) and the second header has snap hooks (10) (Figure 2),

wherein the holders and the first set of projections are configured to be in operative contact with one another at securing points (Figures 1 & 5),

wherein the at least one rib is configured to stiffen the framework (Figure 5), and

wherein each one of the snap hooks passes through a corresponding one of the second set of projections and engages with the corresponding one of the second set of projections (Figures 1 and 5).

Ecia fails to specifically disclose a rib on the fan frame that stiffens the framework. Valeo teaches a rib (66) that stiffens the framework of the fan frame (abstract, Figures 1-3).

In view of Valeo's teaching, it would have been obvious to one of ordinary skill in the art at the time of invention to add a stiffening rib to the fan framework of Ecia in order to provide better rigidity of the fan frame, so as to prevent warping of the fan frame when exposed to high air pressures and other forces.

Re Claim 28. Ecia fails to disclose specifically an additional heat exchanger comprising projections. Valeo teaches at least one additional heat exchanger (ref 12) comprising projections (Figure 1-3, abstract). In view of Valeo's teaching, it would have been obvious to one of ordinary skill in the art at the time of invention to add an additional heat exchanger to the

assembly of Ecia as it allows for the easy installation of both heat exchangers into a vehicle by having them integrated into one assembly. In addition, it would have been obvious to one of ordinary skill in the art at the time of invention to have two heat exchangers as it is well known and established in vehicle cooling systems to have a radiator and condenser located next to one another so as to exchange heat with the outside air.

Re Claim 29. Ecia fails to specifically disclose that the first heat exchanger further comprises securing tenons, wherein the fan frame and the at least one additional heat exchanger each comprises at least one supporting device, wherein the securing tenons of the first heat exchanger are configured to support the first heat exchanger on an abutment, and wherein the at least one supporting device of the fan frame and the at least one supporting device of the at least one additional heat exchanger are configured to support the fan frame and the at least one additional heat exchanger, respectively, on the abutment and the projections.

Valeo teaches the first heat exchanger (ref 10) further comprises securing tenons (ref 78, 80),

wherein the fan frame (ref 14) and the at least one additional heat exchanger (ref 12) each comprises at least one supporting device (ref 40, 42),

wherein the securing tenons of the first heat exchanger are configured to support the first heat exchanger on an abutment (Figure 1), and

wherein the at least one supporting device (ref 40, 42) of the fan frame and the at least one supporting device (ref 40,42) of the at least one additional heat exchanger are configured to

support the fan frame and the at least one additional heat exchanger, respectively, on the abutment and the projections (Figures 1-3, abstract).

In view of Valeo's teaching, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the support structure of Ecia to include securing means for the additional heat exchanger as this would allow for the mounting of the additional heat exchanger onto the main heat exchanger, thus allowing for easier installation of both heat exchangers. In addition, it would have been obvious to one of ordinary skill in the art to include support devices to Ecia for supporting the heat exchanger assembly in a vehicle so as to allow for a convenient and secure mounting system for the assembly in the vehicle.

Re Claim 30. Ecia fails to specifically disclose that the securing tenons and the supporting device of the fan frame and/or of the additional heat exchangers are arranged in a common securing region and are integrated in one another.

Valeo teaches the securing tenons and the supporting device of the fan frame and/or of the additional heat exchangers are arranged in a common securing region and are integrated in one another (Figures 1-3, abstract).

In view of Valeo's' teaching, it would have been obvious to one of ordinary skill in the art at the time of invention to locate the securing means in a common area and integrated in one another as it reduces the space requirement for the mounting structure and allows for easier manufacturing of the heat exchanger since all the parts are formed together.

Re Claim 31. Ecia fails to specifically disclose that the abutment is part of a motor vehicle framework. Valeo teaches the abutment is part of a motor vehicle framework (Figures 1-3, abstract; Since the supporting means are for mounting the heat exchanger in a vehicle, then the abutment must be part of the motor vehicle framework). In view of Valeo's teaching, it would have been obvious to one of ordinary skill in the art at the time of invention to have the abutment be part of a motor vehicle framework as this would allow for the easy installation of the heat exchanger assembly into a vehicle,

Re Claim 32. Ecia discloses that the fan frame (2) and/or the additional heat exchangers are secured solely to the headers (5, 6) of the heat exchanger (Figures 1 & 5, abstract).

Re Claim 33. Ecia discloses the headers (5, 6) are arranged laterally on the heat exchanger (1), and the projections are arranged laterally on the fan frame and/or the additional heat exchanger (Figures 1 & 5, abstract).

Re Claim 34. Ecia discloses the projections of the fan frame and/or of the additional heat exchangers and holders of the header are configured to be inserted and/or latched into one another (Figures 1-5, abstract).

Re Claim 35. Ecia discloses the heat exchanger has another header such that the two headers (5,6) are arranged on opposite sides of the heat exchanger (Figures 1 & 5, abstract).

Re Claim 36-40. Ecia discloses a heat exchanger with two headers but fails to teach a specific rib configuration that extends between the two headers at a given depth. Valeo teaches the rib (ref 66) of the fan frame is arranged between the two headers of the heat exchanger (Figures 1-3, abstract); wherein the rib (ref 66) has a length which corresponds to the distance between two headers (Figures 1-3, abstract); wherein the rib has a depth which corresponds approximately to a depth of the tube/rib block of the heat exchanger (Figures 1-3, abstract; Figures illustrate the rib extending across the depth of the heat exchanger); wherein a depth of the rib is variable along the rib and has a maximum depth at mid-length of the rib (Figures 1-3, abstract; The rib is narrow at the edges and widens as it progresses towards the middle of the fan frame); wherein the at least one rib covers the tube/fib block of the first heat exchanger (Figures 1-3 illustrate the rib covering the heat exchanger tube block, abstract).

In view of Valeo's teaching, it would have been obvious to one of ordinary skill in the art at the time of invention to add a stiffening rib to the fan framework of Ecia between the two headers in order to provide better rigidity of the fan frame, so as to prevent warping of the fan frame when exposed to high air pressures and other forces. In addition, it would have been obvious to one of ordinary skill in the art at the time of invention to have the rib extend over the first heat exchanger so as to form an improved air flow path through the two heat exchangers, which would increase the thermal efficiency of the heat exchangers.

Re Claim 41. Ecia fails to specifically teach that the fan frame is produced as a plastic part and the at least one rib can be injection-molded onto the framework. Valeo teaches the fan frame is produced as a plastic part and the at least one rib can be injection-molded onto the

framework (Figures 1-3, abstract; The rib and frame are one integral part). In view of Valeo's teaching, it would have been obvious to one of ordinary skill in the art at the time of invention to add a an integral injection molded stiffening rib to the fan framework of Ecia between the two headers in order to provide better rigidity of the fan frame, so as to prevent warping of the fan frame when exposed to high air pressures and other forces and the injection molding would allow for reduced manufacturing costs.

Re Claim 42. Ecia teaches the holders of the first header comprise insertion orifices, wherein the projections comprise insertion tabs on one side of the fan frame (ref 2) and comprise securing tabs with latching orifices on the opposite side (abstract, Figures 1-5), and wherein the insertion tabs are configured for insertion into the insertion orifices such that the fan is configured to be subsequently folded and latched by the snap hooks engaged with the securing tabs (abstract, Figure 5).

Re Claim 43. Ecia Industrie teaches the securing means of the fan frame are designed as ribbed feet (ref 27, 28, 29) injection-molded onto the framework in the lower region, and in that the holding means on the header are designed as reception orifices (ref 10) and in that the feet can be pushed into the reception orifices (Figure 1-5, abstract).

Re Claim 44. Ecia Industrie teaches that the snap hooks (ref 31) are arranged on the feet (ref 35) and edges are arranged on the reception orifices (ref 14) and in that the snap hooks can be latched with the edges (Figure 1-5, abstract).

Re Claim 45. Ecia Industrie teaches that the foot with the reception orifice (ref 10) is designed as a fixed bearing and the foot with the reception orifice (ref 31) is designed as a loose bearing (Figure 1-5, abstract).

Re Claim 46. Ecia Industrie teaches the fan frame further comprises ribbed feet injection-molded onto a lower region of the framework, wherein the at least one header further comprises reception orifices, and wherein the securing tenons are arranged below the reception orifices (Figure 1-5, abstract).

Re Claim 47. Ecia discloses the heat exchanger is a coolant cooler (Figures 1-3, abstract).

Re Claim 48. Ecia discloses the coolant cooler is part of a cooling module for a motor vehicle (Figures 1-3, abstract).

Re Claim 49. Ecia discloses a framework with an approximately rectangular horizontal cross section (Figures 1-3, abstract).

Response to Arguments

5. Applicant's arguments with respect to claims 1, 28-49 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant traverses the objection to the drawings and argues that all features are clearly illustrated in Figure 6. The examiner has objected to the drawings for failing to illustrate the abutment located in a vehicle. The applicant asserts that references 500 and 600 illustrate an abutment and vehicle frame respectively. However, Figure 6 is merely just two rectangular boxes, neither of which resembles an abutment, a vehicle frame, nor the heat exchanger assembly. It is not clear from Figure 6 the orientation of the vehicle frame and abutment, such that it is not clear as to how the heat exchanger assembly mounts onto the abutment. As it is drawn, is there only one abutment on which the whole assembly mounts onto, thus leading to only one side of the heat exchanger assembly being supported? What view is Figure 6? Is it a top down view, front facing view, or side view of the vehicle frame? It is recommended that a description be added describing the perspective view that the figure is illustrating and that an additional abutment box (500) be added (if that is indeed the correct interpretation) to illustrate the proper configuration.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRAVIS RUBY whose telephone number is (571)270-5760. The examiner can normally be reached on Monday-Friday 9:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Travis Ruby/
Examiner, Art Unit 3785

/Ljiljana (Lil) V. Ciric/
for Judy Swann, SPE of Art Unit 3785